



PAUL R. LEPAGE  
GOVERNOR

STATE OF MAINE  
DEPARTMENT OF ENVIRONMENTAL PROTECTION



PATRICIA W. AHO  
COMMISSIONER

**Lewiston-Auburn Water  
Pollution Control Authority  
Androscoggin County  
Lewiston, Maine  
A-1054-71-D-M**

**Departmental  
Findings of Fact and Order  
Air Emission License  
Amendment #3/Minor Revision**

**FINDINGS OF FACT**

After review of the air emissions license minor revision application, staff investigation reports and other documents in the applicant's file in the Bureau of Air Quality, pursuant to 38 M.R.S.A., §344 and §590, the Maine Department of Environmental Protection (Department) finds the following facts:

**I. REGISTRATION**

**A. Introduction**

The Lewiston-Auburn Water Pollution Control Authority (LAWPCA) was issued Air Emission License A-1054-71-A-N on June 1, 2011, permitting the operation of emission sources associated with a new anaerobic digester and cogeneration system at the wastewater treatment facility.

LAWPCA has requested a minor revision to the air emission license to clarify a license condition for the cogeneration units, correcting a 40 CFR Part 60, Subpart JJJJ reference regarding compliance requirements.

The equipment addressed in this license is located at 535 Lincoln Street in Lewiston, Maine.

**B. Emission Equipment**

The requirement addressed in this minor revision pertains to the two biogas/natural gas cogeneration units (each 2.23 MMBtu/hr and 230 kW).

**C. Application Classification**

This amendment will not increase emissions of any pollutant. Therefore, this amendment is determined to be a minor revision and has been processed as such.

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## II. MINOR REVISION DESCRIPTION

### A. Background

The anaerobic digester and cogeneration system installed at LAWPCA started up in the fall of 2013. The system includes two municipal waste sludge anaerobic digesters, a hydrogen sulfide (H<sub>2</sub>S) removal system, and the two cogeneration units which fire the treated biogas to produce heat and power. There are also additional pieces of equipment at the facility, including two boilers and an emergency flare.

### B. License Condition for Cogeneration Units #1 and #2 Referencing 40 CFR Part 60, Subpart JJJJ

The two 230 kW cogeneration units are capable of firing biogas or natural gas and are subject to 40 CFR Part 60, Subpart JJJJ, *Standards of Performance for Stationary Spark Ignition Internal Combustion Engines*. The original air emission license issued to the facility referenced the compliance sections §60.4243(b)(1) and (b)(2)(ii) for units greater than 500 hp rather than §60.4243(b)(1) and (b)(2)(i) for units greater than or equal to 100 hp and less than or equal to 500 hp. This minor revision corrects the error.

Currently, condition (16)(G) in air emission license A-1054-71-A-N states:

#### G. NSPS, 40 CFR Part 60, Subpart JJJJ

LAWPCA shall meet all applicable requirements of 40 CFR Part 60, Subpart JJJJ for the cogeneration units, including:

1. Each cogeneration unit shall be maintained and operated according to the manufacturer's emission-related written instructions and records shall be kept of conducted maintenance. [40 CFR §60.4243, 40 CFR §60.4245, and 06-096 CMR 115, BACT]
2. The cogeneration units are subject to emission requirements set forth in 40 CFR 60, Subpart JJJJ. Compliance with these emission requirements shall be demonstrated by certification from the manufacturer or an initial performance test and subsequent tests every 8760 hours or 3 years, whichever comes first, if a manufacturer certification is unavailable. [40 CFR §60.4233 and Table 1, and 40 CFR §60.4245]

Condition 16 (G)(2) incorrectly referenced requirements for units over 500 hp. The cogeneration units at LAWPCA are approximately 308 hp (230 kW), therefore the following applicable language shall replace condition (16)(G)(2):

G. 40 CFR Part 60, Subpart JJJJ

2. The cogeneration units are subject to emission requirements set forth in 40 CFR 60, Subpart JJJJ. Compliance with these emission requirements shall be demonstrated by certification from the manufacturer or an initial performance test if a manufacturer certification is unavailable. [40 CFR §60.4233 and Table 1, and 40 CFR §60.4243 and 40 CFR §60.4245]

D. Annual Emissions

The facility's annual emissions will not be changing with this minor revision.

1. LAWPCA shall be restricted to the following annual emissions, based on a 12 month rolling total. The tons per year limits were calculated based on the cogeneration units and boilers operating 8760 hrs/year, and the Emergency Generator operating at 100 hrs/year.

**Total Licensed Annual Emissions for the Facility\***  
**Tons/year**  
(used to calculate the annual license fee)

	<b>PM</b>	<b>PM<sub>10</sub></b>	<b>SO<sub>2</sub></b>	<b>NO<sub>x</sub></b>	<b>CO</b>	<b>VOC</b>
Cogeneration Units	0.98	0.98	0.18	11.91	23.83	2.76
Boilers	0.16	0.16	0.07	2.06	1.73	0.11
Emergency Generator	0.04	0.04	0.0005	1.0	0.3	0.03
<b>Total TPY</b>	<b>1.18</b>	<b>1.18</b>	<b>0.25</b>	<b>14.97</b>	<b>25.86</b>	<b>2.9</b>

\*Note: Tons per year calculations were based on a worst case scenario, as follows:

- the cogeneration units and boilers firing 8760 hr/yr (the flare is not included since it will be operated when the generators and boilers are not functioning; the flare has the same or lower emissions as the other units),
- the cogeneration units' PM, SO<sub>2</sub>, and VOC emissions were based on biogas firing and NO<sub>x</sub> and CO were based on natural gas firing,
- the boilers' PM, SO<sub>2</sub>, NO<sub>x</sub>, CO, and VOC emissions were all based on firing biogas, and
- the Emergency Generator emissions were based on operating 100 hrs/year.

2. Greenhouse Gases

Greenhouse gases are considered regulated pollutants as of January 2, 2011, through 'Tailoring' revisions made to EPA's *Approval and Promulgation of*

*Implementation Plans*, 40 CFR Part 52, Subpart A, §52.21 Prevention of Significant Deterioration of Air Quality rule. Greenhouse gases, as defined in 06-096 CMR 100 (as amended), are the aggregate group of the following gases: Carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. For licensing purposes, greenhouse gases (GHG) are calculated and reported as carbon dioxide equivalents (CO<sub>2</sub>e).

Based on the facility's fuel use limit(s), the worst case emission factors from AP-42, IPCC (Intergovernmental Panel on Climate Change), and *Mandatory Greenhouse Gas Reporting*, 40 CFR Part 98, and the global warming potentials contained in 40 CFR Part 98, LAWPCA is below the major source threshold of 100,000 tons of CO<sub>2</sub>e per year. Therefore, no additional licensing requirements are needed to address GHG emissions at this time.

## ORDER

Based on the above Findings and subject to conditions listed below, the Department concludes that the emissions from this source:

- will receive Best Practical Treatment,
- will not violate applicable emission standards, and
- will not violate applicable ambient air quality standards in conjunction with emissions from other sources.

The Department hereby grants Air Emission License A-1054-71-D-M subject to the conditions found in Air Emission License A-1054-71-A-N, amendments A-1054-71-B-M and A-1054-71-C-A and in the following conditions.

Severability. The invalidity or unenforceability of any provision, or part thereof, of this License shall not affect the remainder of the provision or any other provisions. This License shall be construed and enforced in all respects as if such invalid or unenforceable provision or part thereof had been omitted.

**SPECIFIC CONDITIONS**

**The following shall replace condition (16)(G) in air emission license A-1054-71-A-N:**

(16) Cogeneration Units

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G. 40 CFR Part 60, Subpart JJJJ

LAWPCA shall meet all applicable requirements of 40 CFR Part 60, Subpart JJJJ for the cogeneration units, including:

1. Each cogeneration unit shall be maintained and operated according to the manufacturer's emission-related written instructions and records shall be kept of conducted maintenance. [40 CFR §60.4243, 40 CFR §60.4245, and 06-096 CMR 115, BACT]
2. The cogeneration units are subject to emission requirements set forth in 40 CFR 60, Subpart JJJJ. Compliance with these emission requirements shall be demonstrated by certification from the manufacturer or an initial performance test if a manufacturer certification is unavailable. [40 CFR §60.4233 and Table 1, and 40 CFR §60.4243 and 40 CFR §60.4245]

DONE AND DATED IN AUGUSTA, MAINE THIS 14 DAY OF October, 2014.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY:

Marc Allen Robert Corne for  
PATRICIA W. AHO, COMMISSIONER

**The term of this amendment shall be concurrent with the term of Air Emission License A-1054-71-A-N.**

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES

Date of initial receipt of application: August 4, 2014

Date of application acceptance: August 11, 2014

Date filed with the Board of Environmental Protection:

This Order prepared by Kathleen E. Tarbuck, Bureau of Air Quality.

